



## KS3 and KS4

# St Thomas More Catholic Academy

Welcome to Science at St. Thomas More.

At STMCA, students will receive wide and varied learning experience during their Science journey. We aim to be a high performing department, committed to high standards and expectations for all. Science helps us to better understand the world around us. Studying Science develops our ability to problem solve, be practical and think critically.

In Year 7, all students will begin their Science journey by working on three projects.

In Biology, our project is on the topic of nutrients and food testing.

In Chemistry, we investigate chemical reactions.

In Physics, our project is on the topic of solar power.

During these projects, we will be improving some of the skills we need such as making predictions, investigating, keeping safe and graph plotting.

We will then focus on the big ideas in Science which includes Energy, Waves, Matter, the Earth, Organisms, and Genes. We will continue to develop knowledge, understanding and practical skills throughout our learning journey at STMCA.

### **Logistics**

Year 7 students will have 6 hours of Science lessons per fortnight.

### **Homework**

We use Educake, an online homework package, for homework. Once students have completed enough quizzes, Educake will start to generate ideas about weakest and strongest topics which will help students to focus on the areas they need to revise. Educake also allows teachers to send personalised feedback which is really useful. Students can set themselves quizzes on Educake which many do to help them improve.

# Our Curriculum

	<b>Autumn Term</b>	<b>Spring Term</b>	<b>Summer Term</b>
Year 7	Nutrients and Food Testing Project, Movement and the Skeleton Chemical Reactions Project Solar Power Project, Energy in the home	Organisms – what organisms are made of Particle Model; Separating Mixtures Energy stores	Genes – variation and reproduction The Universe Sound and light
Year 8	Organisms – breathing and gas exchange Chemical Reactions – Acids and Alkalis Speed and gravity	Organisms – Diet and digestive system Chemical Reactions – Metals and non-metals; Structure of Earth Electricity and static electricity	Ecosystems – food webs, ecological balance and flowering plants Periodic Table Magnetism and electromagnetism
Year 9	Organisms – cells, Digestion and enzymes Matter – Elements; Energy in reactions Energy, Forces	Organisms – Health and Ecosystems- photosynthesis and respiration Chemical Reactions – types of reaction Earth's Climate Electricity, Magnetism	Genes – Evolution and Natural Selection and Ecosystems – competition, food chains and adaptations Earth's Resources Waves, Space
Year 10	B1 Cells and transport C1 Atomic Structure and Periodic Table; C2 Bonding, structure, and the properties of matter P1 Energy P2 Electricity	B2 Organisation of Organisms C3 Quantitative chemistry C4 Chemical changes P3 Particle model of matter	B3 Infection and Response; B4 Bioenergetics C5 Energy Changes P4 Atomic Structure
Year 11	B5 Homeostasis and Response; B6 Inheritance C6 The rate and extent of chemical change C7 Organic chemistry C8 Chemical analysis P5 Forces P6 Waves	B6 Variation and Evolution; B7 Ecology C9 Chemistry of the atmosphere C10 Using resources P7 Magnetism and Electromagnetism	B7 Ecology and Revision Revision Revision

## Enrichment KS3

- Salters Chemistry Club
- British Science Week Chemistry Challenge
- Medpath (Year 9 only)
- Talk from Severn Trent Water
- Extra-curricular clubs, such as Science Club – an opportunity to gain the CREST Award.

## Enrichment KS4

- RSC Top of the Bench Competition
- Medapth for aspiring medical workers
- Revision sessions before school, lunchtime and after school.